

9. PERSONAL PROTECTIVE EQUIPMENT

Industrial safety hazards (i.e., grouting equipment [jet-grout drill rig], material handling, and vehicle operation) are the primary hazards associated with this project. Anyone entering the CWA must be protected against potential safety and contaminant exposure hazards. In addition, anyone who enters the Cold Test Pit South or North sites must wear, as a minimum, Level D PPE (ERP requirement). The ISG activities will take place at the Cold Test Pit sites on a test pit that was constructed specifically for this project. The test pit was constructed with known simulated waste materials that should be encapsulated by the ISG process and should present minimal hazards to workers until excavated and destructively examined. This section addresses required PPE for conducting ISG tasks, and contingencies for upgrading PPE, if required.

The purpose of PPE is to shield or isolate personnel from chemical, safety, and physical hazards that cannot be eliminated through engineering or other controls. It is important to realize that no PPE ensemble can protect against all hazards under all conditions and that work practices and adequate training will also provide a greater level of protection to workers.

Selection of the proper PPE to protect project site personnel is based on the following:

- In situ grouting project tasks to be conducted (e.g., grouting, sampling, excavation, and construction)
- Expected simulated waste materials that will be encountered following excavation
- Potential contaminant routes of entry
- Physical form and chemical characteristics of contaminants
- Acute and chronic effects from exposure to simulated waste constituents and chemical hazards
- Local and systemic toxicity
- Anticipated exposure levels (e.g., contact and airborne)
- Hazard analysis evaluation (see Section 8).

The PPE is generally divided into two broad categories: (1) respiratory protective equipment, and (2) personal protective clothing. Both of these categories are incorporated into the standard four levels of protection (Levels A, B, C, and D). Table 9-1 provides guidance in the selection process for respiratory and protective clothing. Each ISG task will be evaluated in determining the site-specific hazards and most appropriate PPE level (including modifications). Task-based respiratory protection and the protective clothing required for ISG activities are listed in Table 9-1.

Table 9-1. In situ grouting and sampling project task-based personal protective equipment requirements and modifications.

Task	Level of Personal Protective Equipment	Category	Modifications and Comments
		Primary or Contingency	
All In Situ Grouting Activities			
<ul style="list-style-type: none">• Site preparation• Thrust block placement• Weather structure assembly and disassembly	Level D	Primary	Level D PPE as defined in Section 11.2. Modification for specific hand protection for material handling and sampling tasks will be defined by IH.
<ul style="list-style-type: none">• Grouting equipment mobilization and demobilization• Grouting operation, equipment cleanout, and discharge of water	Modified Level D	Upgrade contingency	Upgrading to modified Level D (protective clothing, Tyvek coveralls or equivalent) may be required if action levels are exceeded or contact with grout material cannot be avoided (prolonged and extensive skin contact).
<ul style="list-style-type: none">• Excavation of monolith• Inspection of excavated monolith• Destructive inspection of monolith• Sampling of monolith material• Monolith material removal and site restoration	Level C	Upgrade contingency	If airborne contaminants increase to concentrations above established action limits, Level C full-face air-purifying respiratory protection will be worn in conjunction with chemical protective clothing (cartridge to be selected by project IH based on airborne hazard).

9.1 Respiratory Protection

Based on the tasks to be completed, quantity and form of potential hazardous constituents, and engineering controls that will be implemented, respiratory protection is not anticipated to be required for ISG tasks. Therefore, respiratory protection will be made available only as a contingency if action limits are exceeded or site conditions change such that additional respiratory protection is required (i.e., upgraded). If respiratory protection is required, assigned protection factors for respiratory devices will not be exceeded.

If required, all personnel required to wear respirators will complete training and be fit-tested before being assigned a respirator, according to the training and documentation requirements of this HASP. Requirements for respirator use (i.e., emergency use, storage, cleaning, and maintenance), as stated in the MCP-2726, "Respiratory Protection," will be followed.

9.2 Personal Protective Equipment Levels

The following sections provide detail and explanation of the four levels of PPE. Modifications to these levels will be made under the direction of the HSO, in consultation with the project IH and safety professional, as appropriate. Such modifications are routinely employed during construction and HAZWOPER activities to maximize efficiency and to meet site-specific needs without compromising personnel safety and health. Table 9-1 lists each task or assignment and the corresponding PPE level, as well as any additional or special items necessary for personal protection at the task site. The HSO, IH, and safety professional will determine what modifications to the PPE levels listed in Table 9-1 are appropriate.

9.2.1 Level D Personal Protective Equipment

Level D or modified Level D PPE will serve as the primary PPE level for ISG tasks. Level D PPE will only be selected as a work uniform and not on a site with respiratory or skin absorption hazards requiring whole body protection. It provides no protection against airborne chemical hazards, but rather is used for protection against nuisance contamination and physical hazards. Level D PPE will only be allowed in areas that have been characterized as such or are known to have never been contaminated.

Level D PPE will be the primary level of protective clothing and equipment worn at the well drilling and sampling sites. The Level D PPE ensemble may be modified by the IH or RCT to provide protection from skin or other physical hazards, but will not include the addition of respiratory protection.

Level D PPE consists of the following:

- Coveralls or standard work clothes (as determined by the IH and safety professional)
- Hard hat
- Eye protection and safety glasses with side shields as a minimum (see MCP-2716)
- Hand protection for all material handling tasks (e.g., leather or other material specified by the IH or safety professional)

- Safety footwear (steel or protective toe and shank, as determined by the safety professional)
- Optional Level D modifications consisting of the following:
 - Chemical protective clothing (i.e., Tyvek and Saranex) as prescribed by project IH
 - Chemically resistant hand and foot protection (i.e., inner and outer gloves and boot liners)
 - Any specialized protective equipment (i.e., hearing protection, face shields, welding goggles, and aprons).

9.2.2 Level C Personal Protective Equipment

Level C PPE will only be worn if the airborne action-levels to airborne chemical-levels (or other constituents) are exceeded and cannot be controlled. Additionally, task site chemical contaminants must be well characterized, indicating that (1) personnel are protected from airborne exposures by wearing air-purifying respirators with the appropriate cartridges, (2) no oxygen-deficient environments exist (< 19.5% at sea level), and (3) that there are no conditions that pose immediate danger to life or health. Basic Level C PPE will include the Level D ensemble with the following respiratory and whole body protection upgrades:

- Full-facepiece air-purifying respirators equipped with a NIOSH-approved cartridge (the IH to specify type of cartridge [e.g., organic vapor, HEPA, or combination])
- Chemical-resistant coveralls (i.e., Tyvek QC, Tychem 7500, and Saranex-23-P), as prescribed by project IH
- Chemical-resistant outer shoe or boot cover (the IH to specify material)
- Inner chemical-resistant nitrile rubber gloves with cotton liners (as determined by the IH)
- Outer chemical-resistant Viton or polyvinyl alcohol (PVA) gloves (as determined by the IH)
- Optional Level C modifications (any specialized protective equipment [i.e., hearing protection, welding lens, and aprons]).

9.3 Protective Clothing Upgrading and Downgrading

The ISG project HSO, in consultation with the project IH and safety professional, will be responsible for determining when to upgrade or downgrade PPE requirements. Upgrading or downgrading of PPE requirements based on current conditions is a normal occurrence. If changing conditions are encountered, new work control documents (e.g., SWP and JSA) may need to be written or updated to reflect these changes. Additional reasons for upgrading or downgrading include:

- Upgrading criteria or conditions (work will stop immediately if an upgrade in PPE is required)
 - Unstable or unpredictable site hazards (chemical or other)
 - Contaminants that present difficulty in monitoring or detecting
 - Known or suspected presence of skin absorption hazards

- Temporary loss or failure of any engineering controls
- Identified source or potential source of respiratory hazard(s)
- Change in the task procedure that may result in increased contact with contaminants, or a change in the requirements for meeting any of the criteria listed above.
- Downgrading criteria
 - New information of monitoring data that shows the contaminant levels to be lower than established action limits
 - Implementation of new engineering or administrative controls that eliminate or significantly mitigate hazards
 - Elimination of potential skin absorption or contact hazards
 - Change in site conditions that results in removal of physical hazards or reduces or isolates them to a controlled area
 - Completion or change in tasks that results in the elimination of key hazards that require higher levels of PPE.

9.4 Inspection of Personal Protective Equipment

All PPE ensemble components must be inspected prior to use, and when in use within ISG controlled work areas. Once PPE is donned, self-inspection and the use of the “buddy” system will serve as the principle forms of inspection. If at any time PPE should become damaged or unserviceable, an individual will inform others of the problem and proceed directly to the controlled work area exit point to doff and replace the equipment. Additionally, all PPE that becomes grossly contaminated with grout will be cleaned or replaced. Table 9-2 provides an inspection checklist for common PPE items.

Table 9-2. Personal protective equipment inspection checklist.

Personal Protective Equipment Item	Inspection
Gloves	<p><u>Before use:</u></p> <ul style="list-style-type: none"> • Pressurize gloves to check for pinholes. To pressurize: blow in the glove, then roll until air is trapped, and inspect. No air should escape. Inspect leather gloves for tears, excessive wear, or deterioration or permeation. <p><u>While wearing in the controlled work area (CWA):</u></p> <ul style="list-style-type: none"> • Inspect for tears, punctures, and damage. Replace if unserviceable.
Modified Level D and C clothing	<p><u>Before use:</u></p> <ul style="list-style-type: none"> • Visually inspect for imperfect seams, nonuniform coatings, and tears. Hold personal protective equipment (PPE) up to the light and inspect for pinholes, deterioration, stiffness, and cracks. Check cloth coveralls for tears and rips and deterioration. <p><u>While wearing in the CWA:</u></p> <ul style="list-style-type: none"> • Evidence of chemical attack, such as discoloration, swelling, softening and material degradation. Inspect for tears, punctures, and zipper or seam damage. Check all taped areas to ensure they are still intact.
Respirators (if required) (full-facepiece, air-purifying)	<p><u>Before use:</u></p> <ul style="list-style-type: none"> • Check condition of the facepiece, head straps, valves, connecting lines, fittings, and all connections for tightness. • Check cartridge to ensure proper type or combination for atmospheric hazards to be encountered. Inspect threads and O-rings for pliability, deterioration, and distortion.

10. DECONTAMINATION PROCEDURES

In situ grouting activities are being conducted at the constructed pits (with simulated waste forms) with no hazardous or radiological constituents. Although some of the raw materials used in the simulated waste form mixture could present a potential inhalation or skin hazard if encountered in a pure form, the ISG process will likely encapsulate most, if not all, of these materials. Therefore, decontamination is not anticipated for other than normal daily grout cleanout operations, as described in Section 1. If simulated waste materials or grout are encountered at levels that present a contact or airborne release hazard to personnel, implementation of additional engineering controls, or some wetting or limited decontamination procedures, may be required to mitigate the potential hazards. Additionally, equipment may be cleaned (i.e., decontaminated) at the end of the project using a steam cleaner, as required.

10.1 Contamination Control and Prevention

If contamination is encountered, additional wetting or engineering controls will be used to mitigate contact or airborne hazards. Contamination control and prevention procedures will be implemented to minimize personnel contact with contaminated surfaces if such surfaces are encountered and contacted throughout the grouting and sampling tasks. The following contamination control and prevention measures will be employed if contamination is encountered:

- Identify potential sources of contamination and design containment, isolation, and engineering controls to eliminate or mitigate any potential for contact or release of contaminants
- Limit the number of personnel, equipment, and materials that enter the contaminated area
- Implement immediate decontamination procedures to prevent the spread of contamination (if contamination is found on the outer surfaces of equipment)
- Utilize only the established control entry and exit point from the contaminated area to minimize the potential for cross-contamination and expedite contamination control surveys
- Wear disposable outer garments and utilize disposable equipment (where possible).

10.2 Personnel and Equipment Decontamination

Decontamination procedures for personnel and equipment are not anticipated to be required beyond normal PPE change out and equipment cleaning, respectively. If grout contact cannot be avoided (e.g., excessive contact from prolonged periods that may cause skin irritation or drying or dermatitis), then additional engineering controls, in combination with PPE upgrades, may be necessary to control the contact hazard. Equipment will be decontaminated based on the source of contamination.

10.3 Doffing Personal Protective Equipment and Decontamination

As stated earlier, no personnel decontamination beyond doffing of PPE is anticipated for this project. Careful removal of these outer PPE will serve as the primary decontamination method if protective clothing with excessive amounts of grout (e.g., spattered from grout transfer from cement truck to displacement pump) is contacted.

The specific doffing sequence of modified Level D or C PPE, and any required decontamination procedure, will be based on the nature of the contamination. A general approach for doffing modified

Level D or C PPE is described below. However, there is no one doffing strategy that works for all circumstances. Modifications to this approach are appropriate if site conditions change or at the discretion of the project HSO in consultation with the project IH.

10.3.1 Modified Level D Personal Protective Equipment Doffing and Decontamination (If Required)

If required to be worn, modified Level D protective clothing (e.g., disposable coveralls) will be doffed following standard removal techniques (rolling outside surface inward and down) and will constitute the initial decontamination step. All PPE will be placed in the appropriately labeled containers. Cloth coveralls may be reused as long as they remain serviceable, according to an IH and safety professional judgment call.

10.3.2 Level C Personal Protective Equipment Doffing and Decontamination (If Required)

If respiratory protection is worn in conjunction with protective clothing (e.g., Level C PPE), then the modified Level D sequence will be followed with one additional step. For that additional step (following protective clothing doffing), respirators will be removed and placed in a separate container.

10.4 Disposal of Contaminated Personal Protective Equipment and Equipment

10.4.1 Storage and Disposal of Waste Materials

The potential exists for the generation of CERCLA waste from ISG tasks, as identified in the *OU 7-13/14 Implementation Test and Field Test Plan* (Loomis et al. 2001). All waste streams generated during the field studies will be managed under the direction of the INEEL Waste Generator Services organization and coordinated with project personnel. Waste streams will be identified, characterized, and managed in accordance with the requirements and processes defined in applicable MCPs and other applicable internal documents, such as the *INEEL Reusable Property, Recyclable Materials, and Waste Acceptance Criteria* (RRWAC) (DOE-ID 2000b).

10.4.2 Site Sanitation and Waste Minimization

Site personnel will use the portable toilet facilities provided in the Cold Test Pit or RWMC area. Potable water and soap will also be available within the administrative trailer or the RWMC facility for personnel to wash their hands and face upon exiting the work area.

Waste materials will not be allowed to accumulate at the ISG task sites. Appropriately labeled containers for industrial waste and CERCLA waste will be maintained at the project site, as stated in the *OU 7-13/14 Implementation Test and Field Test Plan* (Loomis et al. 2001). Personnel should make every attempt to minimize waste through the judicious use of consumable materials. All site personnel are expected to make good housekeeping a priority at the job site.

11. EMERGENCY RESPONSE PLAN FOR IN SITU GROUTING COLD TEST PIT SITES

This section defines the responsibilities of the ISG project and INEEL ERO by providing guidance for responding to abnormal events during project activity.

This emergency response plan addresses OSHA “emergency response” activities as defined by 29 CFR 1910.120/1926.65, and DOE “emergencies” as defined by DOE Order 151.1A, Change 2, “Comprehensive Emergency Management System,” and DOE Order 232.1A, “Occurrence Reporting and Processing of Operations Information.” This response plan is implemented in concert with PLN-114, “INEEL Emergency Plan/Resource Conservation and Recovery Act (RCRA) Contingency Plan.”

The “INEEL Emergency Plan/RCRA Contingency Plan” (PLN-114) may be activated in response to events occurring at the RWMC or at the INEEL, or at the discretion of the emergency coordinator (EC)/emergency action manager (EAM). Once the INEEL plan is activated, project personnel will follow the direction and guidance communicated by the EC.

Note: The OSHA term “emergency” is not defined the same as an “emergency” as classified by DOE Orders 151.1, Change 2, and 232.1. For this reason, the term “event” will be used in this section when referring to project HAZWOPER emergencies.

Emergency response plans must be developed and put into place before any project activity begins. Preplanning makes it possible for the project to anticipate and appropriately respond to abnormal events that can affect project activity. Preplanning also ensures that the project emergency response program is integrated with that of the INEEL and RWMC.

All emergencies will be reported through the RWMC shift supervisor to the ERO for classification in accordance with Section 4 of PLN-114. If the RWMC ERO is activated, site emergency response will follow the “INEEL Emergency Plan/RCRA Contingency Plan,” Addendum 3.

On-scene response to, and mitigation of, site emergencies could require the expertise of both INEEL personnel and INEEL fire department personnel. Emergencies that could occur include:

- Accidents resulting in injury
- Fires
- Spills of hazardous or radiological materials
- Tornadoes, earthquakes, and other adverse natural phenomena
- Vehicle or transportation emergencies
- Safeguard and security emergencies
- Emergencies at nearby facilities that could prompt evacuation or take-cover actions at the task site.

11.1 Types of Emergency Events

11.1.1 Events Requiring Emergency Notifications

Certain events require courtesy notifications but do not require a response from the INEEL ERO. In these cases, the project FTL or designee will immediately notify the RWMC shift supervisor or Warning Communications Center (WCC) if the shift supervisor cannot be contacted. The FTL's notification should describe the event and state that no emergency response support is required. Examples of these types of events include, but are not limited to, the following:

- Personal injury at the site requiring medical evaluation or first aid treatment, but not requiring an ambulance response
- Equipment or vehicle accident that results in damage to the vehicle or property ONLY
- Small fire that is immediately extinguished with a hand-held fire extinguisher (also requires notification to the INEEL fire department)
- Any other event deemed potentially reportable.

11.1.2 Events Requiring Local Project Evacuation or INEEL ERO Response

Some events that could occur at the project site or at the RWMC may require support from the INEEL ERO or may require a local area evacuation of the project. In these cases, the project FTL will immediately notify the RWMC shift supervisor. If the shift supervisor cannot be contacted immediately, then the WCC will be contacted. The FTL's notification will describe the event and will request emergency response resources as appropriate. After being informed of the event, the RWMC EC may elect to activate the command post (CP). Once the CP is operational, all emergency response activities will be coordinated through the EC. The specific actions to be taken in response to emergency alarms are described in Section 11.3. Examples of these types of events include, but are not limited to, those listed below:

- Fire that is burning beyond an incipient stage and cannot be extinguished with hand-held extinguishers
- Large spill at the project that cannot be immediately contained or controlled
- Serious injury to a worker or workers.

A positive sweep of the ISG site being worked will be done by the HSO and FTL prior to evacuating the site for accountability purposes.

Note: When the project site has been evacuated, the FTL will serve as the project area warden and ensure shift supervisor or EC (if CP is formed) notification is made that project personnel have been evacuated and accounted for.

11.1.3 Events Requiring Total Facility and Project Evacuation

In the event of an RWMC or INEEL site facility evacuation, the FTL will verbally notify all project personnel to evacuate by using the radio or by using the local evacuation signal. The RWMC notification may be via RWMC alarms or other communication (e.g., radio) as initiated by the EC for

protective actions. For accountability purposes, a positive sweep of the ISG site will be done by the HSO and FTL prior to evacuating the site.

Note: When an evacuation is called for by the EC, the FTL will serve as the project area warden and ensure shift supervisor and EC (if command post is formed) notification is made that project personnel have been evacuated and accounted for.

11.2 Emergency Facilities and Equipment

Emergency response equipment maintained at the site or available at the Cold Test Pit site includes the items described in Table 11-1. Addendum 3 to the "INEEL Emergency Plan/RCRA Contingency Plan" (PLN-114) lists emergency equipment available at the RWMC. This includes the CP located in Building WMF-637, equipment located in Building WMF-601 (i.e., self-contained breathing apparatus, dosimeters, air samplers, decontamination and first-aid equipment, and an emergency response trailer). The INEEL fire department maintains an emergency hazardous material (HAZMAT) response van that can be used to respond to an event or emergency at the project. Fire department personnel are also trained to provide immediate hazardous material spills and medical services. At least one person with current medic/first-aid training will be present at the project to render first aid on a voluntary basis.

Table 11-1. Emergency response equipment to be maintained at the in situ grouting site during operations.

Equipment Name and Quantity Required	Location at Task Site	Responsible Person	Frequency of Inspection or Verification ^a
First-aid kit	ISG trailer	HSO	Monthly – check seal only
Eyewash bottles ^b	Eyewash station located in CWA	HSO	Monthly
Eyewash station			
Hazardous materials spill kit	CWA	HSO	Verification
Extra PPE	ISG trailer	HSO	Verification
Communication equipment (operational)	On site	FTL	Daily Radio Check
Fog horn (1) for signaling onsite alerts	ISG trailer	HSO	Verification
<u>Fire extinguishers^c</u>	CWA	HSO	Monthly

a. Verification that equipment is present at the designated project location – no inspection tag is required.

b. An eyewash bottle will be used to provide an immediate eye flush if required. The location of the eyewash station will be identified by the IH during the prejob briefing

c. A minimum of one 10A/60BC extinguisher. If used, return for servicing and recharging.

ISG = in situ grouting

HSO = health and safety officer

CWA = controlled work area

FTL = field team leader

11.3 Emergency Communications

In the event of an emergency, the capability to summon INEEL emergency response resources to immediately notify site personnel and inform others of site emergencies is required. Communications equipment at the task site will be a combination of radios, telephones (e.g., mobile, cellular, or facility), and pagers. The following communication methods will be used during emergency situations:

During emergency situations, the RWMC shift supervisor will be notified of any project emergency event. The shift supervisor will then make the required RWMC EC notification. The following information should be communicated, as available, to the shift supervisor:

Note: If the RWMC shift supervisor cannot be contacted, then the WCC will be notified of the event and the information listed below communicated. The WCC must also be told that RWMC notification to the RWMC shift supervisor and EC has not been made.

- The caller's name, title (e.g., FTL or HSO), telephone number, and pager number
- Exact location of the emergency
- Nature of the emergency, including time of occurrence, current site conditions, and special hazards in the area
- Injuries, if any, including numbers of injured, types of injuries, and conditions of injured
- Emergency response resources required (e.g., fire, HAZMAT, and ambulance)
- Additional information, as requested.

11.4 Emergency Recognition and Prevention

All ISG project personnel should be constantly alert for potential hazardous situations and signs and symptoms of chemical exposure or releases. All ISG project personnel will be trained in proper site access and egress procedures, in response to ISG project events and INEEL emergencies, as part of the ISG project-specific training HASP. Visitors will also receive this training on a graded approach based on their access requirement. Alarm identification, location and use of communication equipment, location and use of site emergency equipment, and evacuation routes will be covered. Emergency phone numbers and evacuation route maps will be located in the SZ (i.e., the ISG project trailer). All field personnel should be familiar with the techniques for hazard recognition and assigned action levels.

11.5 Emergency Response Roles and Responsibilities

11.5.1 The INEEL and RWMC Emergency Response Organization

The INEEL ERO and RWMC ERO structures are based on the Incident Command System (ICS) and are described in PLN-114, the "INEEL Emergency Plan/RCRA Contingency Plan" and Addendum 3 to that plan.

11.5.2 Project Personnel Involved in Emergencies

11.5.2.1 Field Team Leader. The FTL (or designated alternate) is responsible for initiating all requests for emergency services (e.g., fire and medical) and for notifying the RWMC shift supervisor of abnormal (or potential abnormal) events that may occur during the project. The FTL will also serve as the area warden (or designate that responsibility to another area-warden-trained ISG project supervisor) and conduct personnel accountability. Personnel accountability will then be reported to the RWMC shift supervisor. Additionally, the FTL will control the scene until a higher tiered ICS authority arrives at the scene to take control. When relinquishing this role, the FTL (or designated alternate) will provide all requested information regarding the nature of the event, potential hazards, and other information requested. The FTL may then be asked to report to the RWMC CP and serve in a technical support capacity.

11.5.2.2 Project Personnel. Every person at the project has a role to play during an event or INEEL emergency. Each employee must be constantly aware of potential problems or unexpectedly hazardous situations by immediately reporting these situations to the FTL or HSO. All employees are expected to watch out for their fellow workers, to report their concerns to the FTL, and to respond to emergency events as described in this HASP. Roles and responsibilities are further detailed in Table 11-2.

Table 11-2. Responsibilities during an emergency.

Responsible Person	Action Assigned
FTL (or designee)	Contact RWMC shift supervisor or Warning Communications Center and signal evacuation
FTL (or designee)	Conduct accountability and report to RWMC shift supervisor
FTL (or trained designee)	Serve as area warden
HSO and medic or first-aid trained personnel	Administer first aid to victims (voluntary basis only)
FTL (or designee)	Report spill to RWMC shift supervisor ^a
FTL (or designee)	Support the RWMC command post technical representative, as requested.

a. The environmental affairs spill response categorization and notification team will be contacted by the RWMC shift supervisor or emergency coordinator.

FTL = field team leader

RWMC = Radioactive Waste Management Complex

HSO = health and safety officer

11.5.3 Spills

The only potential for a liquid spill requiring reporting would be from equipment refueling tasks or broken equipment hydraulic lines at the ISG project site. If the spills are small enough to be safely contained at the task site, task site personnel will handle spill control using spill supplies at the site and immediately report the incident to the RWMC shift supervisor. Reporting requirements will be determined by the RWMC EC, in accordance with MCP-190, "Event Investigation and Occurrence

Reporting.” If any release of a hazardous material occurs, task site personnel will comply with the following immediate spill response actions:

Untrained Initial Responder (or if the material characteristics are unknown):

- Use emergency stops to shut down equipment (as appropriate)
- **Evacuate** and **isolate** the immediate area
- Notify and then **seek help** from and **warn** others in the area
- **Notify** FTL or HSO.

Trained Responder, material characteristics are known, no additional PPE is required:

- **Seek help** from and **warn** others in the area
- **Stop** the spill, if it can be done without risk (e.g., return the container to upright position, close valve, and shut off power)
- **Provide** pertinent information to FTL and HSO
- Place all equipment in a secure shutdown mode
- **Secure** any release paths only in an emergency. Otherwise, make a plan, fill out paperwork, and respond. Don appropriate PPE and conduct industrial hygiene surveys of the area to determine the extent of the spill.

11.5.4 Alarms

Alarms and signals are used at the project site and INEEL to notify personnel of abnormal conditions that require a specific response. Responses to these alarms are addressed in general employee training. In addition to the alarms previously described, emergency sirens located throughout the RWMC serve as the primary means for signaling emergency TAKE COVER or EVACUATION protective actions. To signal site personnel of a project-initiated emergency event, a separate set of emergency signals has been established based on horn blasts (e.g., vehicle or air horn). These signals are described in Table 11-3.

Table 11-3. In situ grouting Cold Test Pit project internal emergency signals.

Device or Communication Method	Signal and Associated Response
Air or Vehicle Horn Blasts	<p><u>One long blast</u>—Emergency evacuation, evacuate project site immediately. Proceed in an upwind direction to designated assembly area, as specified by field team leader.</p> <p><u>Two short blasts</u>—Nonemergency evacuation of immediate work area. Proceed to designated assembly area, as specified by FTL.</p> <p><u>Three long blasts</u> or verbally communicated—All clear, return to project site.</p>

11.5.4.1 Take Cover – Continuous Siren. Radiation or hazardous material releases, weather conditions, or other event or emergency conditions may require that all personnel take cover indoors in the nearest building. A TAKE COVER protective action may be initiated as part of a broader response to an emergency situation and may precede an evacuation order. The order to TAKE COVER is usually announced by activating the RWMC emergency siren. The signal to take cover is a CONTINUOUS SIREN that can be heard throughout the RWMC area. Remember, **STEADY = STAY**. However, the order to take cover can also be given by word of mouth, radio, or voice paging system. When ordered to TAKE COVER, project personnel will place the site in a safe condition (as appropriate) and then seek shelter in an ISG project trailer. Eating, drinking, and smoking are not permitted during take-cover conditions.

11.5.4.2 Total Area Evacuation – Alternating Siren. A total area evacuation is the complete withdrawal of personnel from the project site and the entire RWMC area. The evacuation signal is an ALTERNATING SIREN that can be heard throughout the SDA. Remember, **ALTERNATE = EVACUATE**. A single long blast of the air horn serves as the project's alternate emergency evacuation alarm. However, the order to evacuate can also be given by word of mouth, radio, or voice paging system. When ordered to EVACUATE, project personnel will place the site in a safe condition (as appropriate) and then proceed along the specified evacuation route to the designated assembly area, or as directed by the EC.

For total area evacuations, the RWMC CP is activated and all personnel gather at the primary RWMC evacuation assembly area or the location designated by the EC. The FTL or trained alternate will then complete the personnel accountability using the attendance log. In this situation, the project area warden reports the result of the accountability process to the RWMC EC.

11.5.4.3 Local Area Evacuation – Horn Blast. A local area evacuation is the complete withdrawal of personnel from the ISG project site, but it does not require the complete evacuation of the entire RWMC or INEEL area. A single long horn blast (air or vehicle) will serve as the project's primary emergency evacuation signal (as listed on Table 11-3). However, the order to evacuate can also be given by word of mouth, radio, or voice paging system. When ordered to evacuate the project site, personnel will place the site in a safe condition (as appropriate) and then proceed along the specified evacuation route to the assembly area designated for local area evacuations, or as directed by the FTL. Eating, drinking, and smoking are not permitted during emergency evacuations.

11.5.5 Personnel Accountability and Area Warden

Project personnel are required to evacuate the site in response to TAKE COVER, EVACUATION, and local evacuation alarms. In each case, the FTL (or trained designee) will account for the people present on the site at the time the alarm was initiated. The FTL (or trained alternate) serves as the area warden for the project and completes the personnel accountability (following positive sweeps of the project site) based on the attendance log. The results of this accountability will then be communicated to the FTL for reporting to the RWMC shift supervisor or EC (if the CP has been formed).

11.5.6 Notifications

As directed by the office of the U.S. Secretary of Energy, the RWMC area director is responsible for immediately notifying the DOE and local off-Site agencies of all significant abnormal events that occur at the RWMC. This duty is in addition to the notification requirements established in INEEL procedures for events that are categorized as emergencies or unusual occurrences. For this reason, the project will immediately report all abnormal events that occur on the project site to the RWMC shift supervisor and to the WCC. The WCC will, in turn, notify the appropriate INEEL emergency response resources and other INEEL facilities, as appropriate. The RWMC shift supervisor and the WCC share the responsibility for notifying the RWMC facility manager, EC, and area director (as appropriate). Normally the FTL is responsible for making the event notifications described above. Additional project notification may be made by the FTL. The EC is the single POC between the project and the INEEL ERO and off-Site people or agencies. The EC will make all off-Site notifications and all media requests concerned.

11.5.7 Evacuation Assembly Areas and Central Facilities Area Medical Facility

The RWMC maintains primary and secondary evacuation assembly areas (see Figure 11-1). These routes may be used in response to a total RWMC area evacuation, as directed by the EC. Copies of the evacuation assembly areas and the Central Facilities Area (CFA)-1612 medical facility route (see Figure 11-2) will be posted at the project site in the project administrative trailer.

11.6 Reentry and Recovery

11.6.1 Reentry

During an emergency response, it is sometimes necessary to reenter the scene of the event. Reasons for performing a reentry may include:

- Personnel search and rescues
- Medical first-aid responses
- Safe shutdown actions
- Mitigating actions
- Evaluating and preparing damage reports
- Radiation or hazardous material surveys.

Reentries will be carefully planned to ensure that personnel are protected from harm and to prevent initiating another emergency event. Reentry planning is undertaken as a graded approach depending on the nature of the initiating event.

11.6.2 Recovery

After the initial corrective actions have been taken and effective control established, response efforts will shift toward recovery. Recovery is the process of assessing post-event and post-emergency conditions and developing a plan for returning to pre-event and pre-emergency conditions, when possible, and following the plan to completion. The EC and EAM are responsible for determining when an emergency situation is sufficiently stable to terminate the emergency and enter the recovery phase. The ISG treatability study project manager, with concurrence from the RWMC SAD, will appoint the recovery manager.

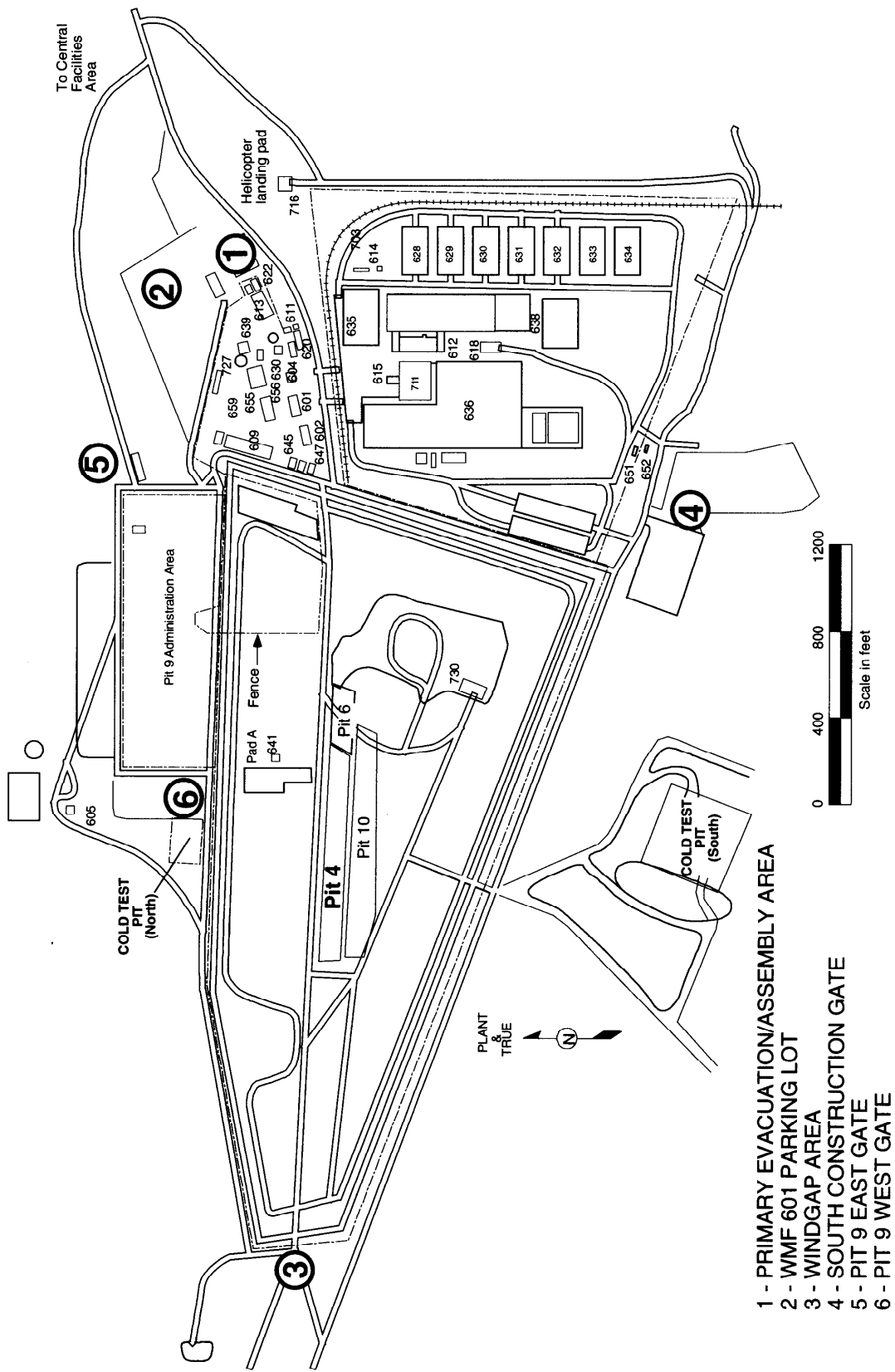
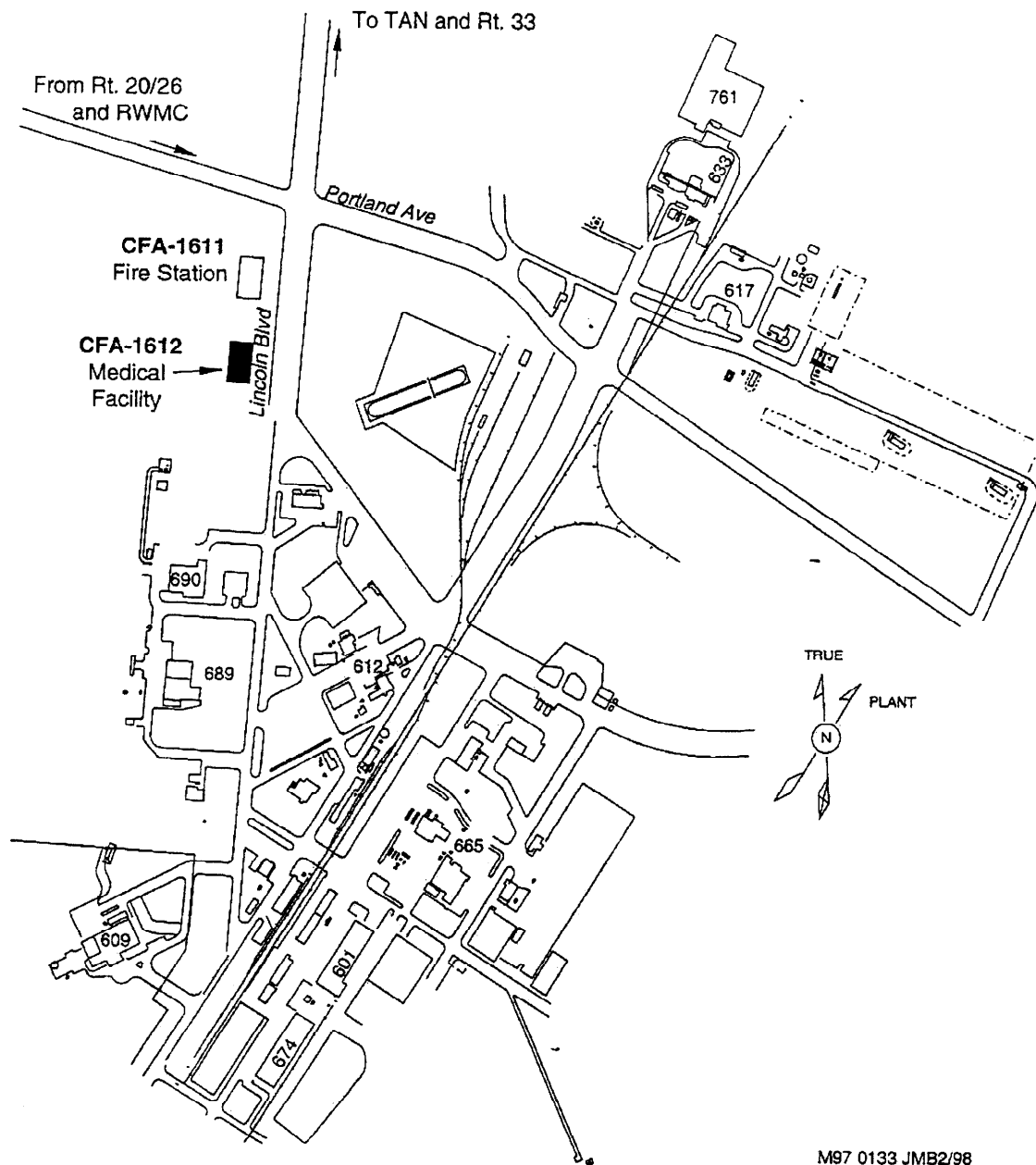


Figure 11-1. Radioactive Waste Management Complex primary and secondary evacuation assembly areas.



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Figure 11-2. Map showing the route to the nearest medical facility (CFA-1612).

11.7 Critique of Response and Followup

A review and critique will be conducted following all emergency events, drills, and exercises at the INEEL. In some cases an investigation may be required prior to commencing recovery actions. For this reason, care should be exercised to preserve evidence, when appropriate.

11.8 Telephone and Radio Contact Reference List

Table 11-4 lists the POCs for the project. This list will be posted at the entrance to the ISG administrative trailer and inside the weather structure. Since personnel listed may change frequently, working copies of this list will be generated, as required, to note new positions and personnel assigned. This HASP should not be revised with a DAR to note these changes.

Table 11-4. Project emergency contact list.

Contact Title	Contact Name	Phone Number/Radio Net	Pager Number
Fire, medical emergency, and security Warning Communications Center (WCC)		777, 6-1515	
RWMC shift supervisor		6-2767	D-Net radio
ER SH&QA manager	Charlie Chebul	6-9566	5689
Health and safety officer	Richard L. Roblee	6-4731	5757
Safety professional	Kelly A. Wooley	6-2552	7368
Industrial hygienist	Jonathon D. Roberts	6-5386	3351
WAG 7 environmental compliance	Brent N. Burton	6-8695	7486
WAG 7 manager	John M. Schaffer	6-3029	6451
WAG 7 field operations supervisor	Andrew R. Baumer II	6-3238	3482
OU 7-13/14 ISG treatability study project manager	James J. Jessmore	6-7558	5088
ISG project investigator	Guy G. Loomis	6-9208	4115
ISG field team leader	Elden B. Thompson	6-7513	6770
RWMC nuclear facility and operations manager	Albert E. Millhouse	6-6932	5304
RWMC site area director	David M. Bright	6-4223	5270
RWMC SH&QA manager	Timothy L. Carlson	6-8062	5724
RWMC radiological control supervisor	Randy D. Sayer	6-6619	5865
RWMC radiological engineer	W. Rick Horne	6-5318	5898
RWMC DOE-ID facility representative	Robert L. Knighten	6-5243	7273

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